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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,536	03/10/2004	Yan Zhou		2535

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EXAMINER

CHIEM, DINH D

ART UNIT PAPER NUMBER

2883

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/708,536

Applicant(s)

ZHOU ET AL.

Examiner

Erin D. Chiem

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.  
4a) Of the above claim(s) 23-31 and 33-46 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☐ Claim(s) 1-22, 32 and 47-52 is/are rejected.  
7) ☒ Claim(s) 48-52 is/are objected to.  
8) ☐ Claim(s) 23-31 and 33-46 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on 3/16/2006 is acknowledged. The traversal is on the ground(s) that the inventions are not independent from each other. This is not found persuasive because the inventions are proven to be distinct and independent in the previous restriction requirement office action. If the applicant disagrees, the examiner welcomes the applicant to admit on record the inventions are obvious variants of each thus proving the invention to be independent and non distinct. However admittance on the record will also qualifies the admittance for 35 USC 103 rejection considerations.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Claims 48-52 are dependent of a non-elected inventions therefore the scope of the invention cannot be determined. Please make the proper corrections.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-22, 32, 47, and 49-52 are rejected under 35 U.S.C. 102(b) as being anticipated by the US Patent to Xu (5,689,374).

In terms of Claim 1, Xu teaches a super lens comprising a vertically Graded refractive index multi layer structure, the structure having one or more horizontally curved sidewalls wherein the lens is used for focusing beams of light (Abstract and Fig 1 and Fig 8).

As for Claim 2 and 3 are identified as Product by Process Claim, which is dependent of Claim 1. Products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. In this instant the limiting process is the focusing function of the varying the thickness and radius, which is, discuss in (Col 4 30-60). Since the limit structure of vary thickness is met by the prior art the process of focusing is not given any weight. Once the examiner provides a rational which supports the conclusion that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed Cir. 1983). **A statement or argument by the attorney is not factual evidence.**

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As for Claim 4 and 5 are identified as Product by Process Claim, which is dependent of Claim 1. Products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. In this instant the limiting process is the formation of the thickness through etching. Since the limit structure of vary thickness is met by the prior art the process of focusing is not given any weight. Once the examiner provides a rational which supports the conclusion that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed Cir. 1983). **A statement or argument by the attorney is not factual evidence.**

As for Claim 6 and 7, Xu teaches the device of Claim 2, wherein the divergence and convergent of the light is determined by thickness (Fig 10B).

As for Claim 8, Xu teaches the device of Claim 1, wherein the curved surfaces of the walls are a sphere (Fig 8).

As for Claim 9, Xu teaches the device of Claim 1, wherein the input and output walls have the same radii (Fig 8)

As for Claim 10, Xu teaches the device of Claim 1, wherein the walls of the input and output have different radii (Fig 9b)

As for Claim 11, Xu teaches the device of Claim 9, wherein the radius is positive (Fig 8)

As for Claim 12, Xu teaches the device of Claim 10, wherein the radius of the curved surface of the input sidewall and the radius of the output sidewall have the same sign (Fig 8).

As for Claim 13, Xu teaches the device of Claim 10, wherein the radius of the input and output walls have different signs (Fig 9b)

As for Claim 14, Xu teaches the device of Claim 1, wherein the curved surface of the walls have arbitrary curved shapes (Fig 8b).

As for Claim 15, Xu teaches the device of Claim 1, wherein the refractive index profile has arbitrary refractive index variation (Fig 6).

As for Claim 16, Xu teaches the device of Claim 8, wherein at least one of the input and output wall has anti-reflection coat (Col 7 30-50))

As for Claim 17, Xu teaches the device of Claim 14, is a Product By Process Claim. The Process refers to a formation of a reflective coating. Once the examiner provides a rationale which supports the conclusion that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed Cir. 1983). **A statement or argument by the attorney is not factual evidence.**

As for Claim 18, Xu teaches the device of Claim 1, wherein curved surface of the walls have a 3d curve surface (Fig 8b).

As for Claim 19, Xu teaches the device of Claim 1, wherein the graded refractive index distribution of the lens is a standard distribution (Col 12 [25-50]).

As for Claim 20, Xu teaches the device of Claim 17, wherein the GRI distribution of the lens is parabolic (Claim 9).

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As for Claim 21, Xu teaches the device of Claim 1, wherein the beam is circular and elliptical spot size (Fig 8)

As for Claim 22, Xu teaches the device of Claim 1, wherein the wavelength of the electromagnetic is in the visible range (Fig 6).

As for Claim 24, Xu teaches the device of Claim 20, has functional language regarding the focusing of the lens. Functional Language are not given any weight. While features of an apparatus may be recited structurally or functionally claims directed to an apparatus must distinguished from the prior art in terms of structure rather than function alone (See MPEP 2114).

In terms of Claim 47, Xu teaches the a device comprising a substrate (Fig 2); a GRI index film deposited on the substrate (Fig 2); and curve input and output sidewalls, the input sidewall being the sidewall on which the beam is incident on the apparatus, the output side wall being the side wall through which the beam leaves the device (Fig 9).

As for Claim 49, Xu teaches the device of Claim 4,

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xu in view of the US Patent Application Publication to Zhou (2004/0042729).

Regarding for Claim 48, Xu teaches the device of Claim 47, Xu does not teach a photo resist layer spin-coated on of the metal layer. Zhou does teach an application of apply a photo resist layer to a lens in order to reduce radiation. A motivation for such an application would be to reduce radiation leakage within the optical lens. Therefore it would have been obvious at the time of the invention to apply the teachings of Zhou to the device of Xu in order to prevent radiation leakage.

### *Conclusion*

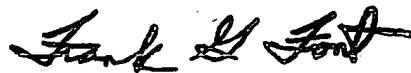
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin Chiem whose telephone number is 571-272-37102. The examiner can normally be reached on 9:00AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 2883

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